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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/177,814	10/23/1998	TERRY L. GILTON	353OUS(97-12	3621

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EXAMINER

GABEL, GAILENE

ART UNIT	PAPER NUMBER
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1641

DATE MAILED: 04/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/177,814	Applicant(s) GILTON, TERRY L.	
	Examiner Gailene R. Gabel	Art Unit 1641	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-11,13-44,46,48-64,66-74 and 105-107 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1,3-11,13-44,46,48-64,66-74 and 105-107 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Amendment Entry

1. Applicant's amendment and response filed 1/26/04 is acknowledged and has been entered. Claims 51 and 64 have been amended. Currently, claims 1, 3-11, 13-44, 46, 48-64, 66-74, and 105-107 are pending.

A restriction requirement has been set forth in light of Applicant's amendment to the claims. Accordingly, the claims are deemed to encompass 6 groups of inventions.

Election/Restrictions

2. Restriction to one of the following inventions is required under 35 U.S.C. 121:
- I. Claims 1, 3-11, and 13-29, drawn to a sample separation apparatus, classified in class 422, subclass 56, for example.
 - II. Claims 30-44, 46, and 48-50, drawn to separation apparatus, classified in class 436, subclass 177, for example.
 - III. Claims 51-56, drawn to small chromatograph, classified in class 435, subclass 2, for example.
 - IV. Claims 56-63, drawn to electrophoresis device, classified in class 436, subclass 516, for example.
 - V. Claims 64 and 66-74, drawn to analyte detection apparatus, classified in class 422, subclass 55, for example.

VI. Claims 105-107, drawn to small flow channel device, classified in class 435, subclass 287.3, for example.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require that the substrate is composed of silicon, gallium arsenide, or indium phosphide. The subcombination has separate utility such as for use as semiconductor substrate.

Inventions I and III are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions, the different invention have different modes of operation and different effects in that Invention I is a sample separation apparatus having a substrate that is required to be composed of silicon, gallium arsenide, or indium phosphide, at least two distinct porous regions, and a detector; and Invention III is a miniature chromatograph having a substantially planar surface, and porous matrices formed thereto wherein the plurality of pores communicate with a major surface of the substrate.

Inventions I and IV are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed

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does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require that at least one of the distinct porous regions is a sample column and the other distinct porous region is a control column. The subcombination has separate utility such as substrate in a trench capacitor.

Inventions I and V are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions, the different invention have different modes of operation and different effects in that Invention I is a sample separation apparatus having a substrate that is required to be composed of silicon, gallium arsenide, or indium phosphide, at least two distinct porous regions, and a detector; and Invention V is an analyte detection apparatus having a substantially planar substrate, with porous matrices formed thereto wherein lengths of the unconnected porous columns are continuous with the major surface of the substrate.

Inventions I and VI are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions, the different invention have different modes of operation and different effects in that Invention I is a sample separation apparatus having a substrate that is required to be composed of silicon, gallium arsenide, or

indium phosphide, at least two distinct porous regions, and a detector; and Invention VI is an ultrasmall flow channel device having a flow inlet and a flow channel comprising a matrix composed of hemispherical grained silicon.

Inventions II and III are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions, the different invention have different modes of operation and different effects in that Invention II is a separation apparatus having at least two distinct unconnected capillary columns comprising a porous matrix, and a detector; and Invention III is a miniature chromatograph having a substantially planar surface, with porous matrices formed thereto wherein the plurality of pores communicate with a major surface of the substrate.

Inventions II and IV are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the substrate to be composed of silicon, gallium arsenide, or indium phosphide, and that at least one of the distinct porous regions is a sample column and the other distinct porous region is a control column. The subcombination has separate utility such as substrate in a trench capacitor.

Inventions II and V are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions, the different invention have different modes of operation and different effects in that Invention II is a separation apparatus having at least two distinct unconnected capillary columns comprising a porous matrix, and a detector; and Invention V is an analyte detection apparatus having a substantially planar substrate composed of silicon, with porous matrices formed thereto wherein lengths of the unconnected porous columns are continuous with the major surface of the substrate.

Inventions II and VI are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions, the different invention have different modes of operation and different effects in that Invention II is a separation apparatus having at least two distinct unconnected capillary columns comprising a porous matrix, and a detector; and Invention VI is an ultrasmall flow channel device having a flow inlet and a flow channel comprising a matrix composed of hemispherical grained silicon.

Inventions III, IV, V, and VI are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions, the different invention have

different modes of operation and different effects in that Invention III is a miniature chromatograph having a substantially planar surface, and porous matrices formed thereto wherein the plurality of pores communicate with a major surface of the substrate; Invention IV is an electrophoretic apparatus having a substrate composed of silicon, gallium arsenide or indium phosphide, an at least one sample column, and a control column; Invention V is an analyte detection apparatus having a substantially planar substrate composed of silicon, and porous matrices formed thereto wherein lengths of the unconnected porous columns are continuous with the major surface of the substrate; and Invention VI is an ultrasmall flow channel device having a flow inlet and a flow channel comprising a matrix composed of hemispherical grained silicon.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper. Furthermore, because the search required for each of Groups I, II, III, IV, V, and VI, is not required for search for each of the other Groups, restriction for examination purposes as indicated is proper. Literature search for each apparatus is distinct since the structural requirements of each invention are different. While searches would be expected to overlap, there is no reason to expect the searches to be coextensive.

3. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gailene R. Gabel whose telephone number is (571) 272-0820. The examiner can normally be reached on Monday, Tuesday, and Thursday, 5:30 AM to 2:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long V. Le can be reached on (571) 272-0823. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Gailene R. Gabel
Patent Examiner
Art Unit 1641 *gg*
April 5, 2004

Christopher L. Chin
CHRISTOPHER L. CHIN
PRIMARY EXAMINER
GROUP ~~1800~~ 1641